IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

OANDA Corporation, Plaintiff, v. StoneX Group, Inc., Defendant.	)	No. 20-cv-07785 Judge John J. Tharp, Jr.

MEMORANDUM OPINION AND ORDER

Plaintiff OANDA Corporation and defendant StoneX Group, Inc. are both providers of online foreign currency trading and information services. OANDA has sued StoneX for patent infringement pursuant to 35 U.S.C. § 1 *et seq*, alleging that StoneX's trading platform infringes three of OANDA's patents: U.S. Patents Nos. 7,356,504 (the '504 Patent) (Ex. A to Compl., ECF No. 1-1), 7,702,548 (the '548 Patent) (Ex. B to Compl., ECF No. 1-2), and 7,742,959 (the '959 Patent) (Ex. C to Compl., ECF No. 1-3). StoneX has filed a motion to dismiss for failure to state a claim on the ground that a claim against it for patent infringement cannot proceed because the asserted patents are invalid under 35 U.S.C. § 101 as comprising ineligible subject matter. For the reasons set forth below, StoneX's motion is granted. OANDA's claims are dismissed with prejudice.

BACKGROUND

OANDA is the assignee of the three patents at issue in this case. The innovations claimed in the patents, which the inventors filed with the Patent Office in the early 2000s, enabled OANDA to overcome certain limitations in the nascent years of online foreign currency exchange.

The '504 and '548 Patents

The '504 and '548 Patents address methods for determining statistical values based on inhomogenous (*i.e.*, arriving at irregular, "tick by tick," intervals), high-volume time series data. The '504 Patent teaches systems and methods "for determining value-at-risk,"[1] *see* '504 Patent, *Abstract*, while the '548 Patent teaches systems and methods "for obtaining predictive information (*e.g.*, volatility)," *see* '548 Patent, *Abstract*.

Risk measurement and management are fundamental parts of any coherent trading strategy. Obviously, many of the relevant metrics are data driven. At the time that the '504 and '548 Patents were filed, "[t]he state of the art [was] measuring risk by analyzing daily data: using one market price per working day and per financial instrument." '504 Patent, *Background*. Given the advent of computers, however, dramatically more data became available; in fact, certain data vendors could transmit "more than 275,000 prices per day for foreign exchange spot rates alone." Ex. D to Compl., ECF No. 1-4. And, as the patent authors explained, using only one market price per day did not provide terribly helpful predictive information: There is no reason to think that an asset's market price at a given time of day is any more representative of the asset's movements throughout the day than if it were selected at a different time of day. Why rely on only one price point per asset per day when such greater quantities of data were available?

The problem was that deriving helpful statistical information from such high-frequency financial data arriving at random, and thus irregular, intervals ("tick-by-tick data") posed some challenges. Because the prior art used a single daily transaction, the data points were regularly spaced from a temporal standpoint, *i.e.*, they produced "homogenous time series." And the

[1] Value-at-risk ("VaR") is, as the name implies, a metric reflecting the potential loss on an investment, the probability that that potential loss may occur, and the relevant time frame over which such a loss is calculated to potentially occur. "There is a 95% chance that you don't lose more than 4% of the current value of your holding over the next two days," is an example.

relatively low volume of data was wieldier for conducting complicated statistical operations for on-the-spot decision making. The tick-by-tick data, on the other hand, arrived at a higher frequency and in irregularly spaced intervals, thus producing "inhomogeneous time series," from which it was more difficult to derive meaningful statistical information. Further, the sheer volume/frequency of ticks posed issues; the tick-by-tick data sets were "100 or even 10,000 times denser than daily data," thus requiring much more efficient computation processes to provide timely metrics for quick trading decisions. '548 Patent, *Summary*. The '504 and '548 Patents helped OANDA meet these challenges.

'504 Claim 1, the only independent claim of the '504 Patent, recites nine steps:

(1) electronically receiving financial market transaction data over an electronic network;

(2) electronically storing in a computer-readable medium said received financial market transaction data;

(3) constructing an inhomogeneous time series z that represents said received financial market transaction data;

(4) constructing an exponential moving average operator;

(5) constructing an iterated exponential moving average operator based on said exponential moving average operator;

(6) constructing a time-translation-invariant, causal operator $\Omega[z]$ that is a convolution operator with kernel ω and that is based on said iterated exponential moving average operator;

(7) electronically calculating values of one or more predictive factors relating to said time series z, wherein said one or more predictive factors are defined in terms of said operator $\Omega[z]$;

(8) electronically storing in a computer readable medium said calculated values of one or more predictive factors;

(9) and electronically calculating value-at-risk from said calculated values.

'504 Patent, *Claim 1*.

The major steps of the '548 Patent are similar and as follows:

(1) financial market transaction data is electronically received by a computer over an electronic network;

(2) the received financial market transaction data is electronically stored in a computer-readable medium accessible to the computer;

(3) a time series z is constructed that models the received financial market transaction data;

(4) an exponential moving average operator is constructed;

(5) an iterated exponential moving average operator is constructed that is based on the exponential moving average operator;

(6) a linear, time-translation-invariant, causal operator Ω[z] is constructed that is based on the iterated exponential moving average operator;

(7) values of one or more predictive factors relating to the time series z and defined in terms of the operator Ω[z] are calculated by the computer; and

(8) the values calculated by the computer are stored in a computer readable medium.

'548 Patent, *Abstract*.[2] The '548 Patent has five independent claims, 1, 9, 17, 20, and 25, which all similarly involve the same concept of receiving data and constructing a time series from it, applying various operators to the time series, and deriving predictive information.

The '959 Patent

The '959 Patent teaches "a method and apparatus for filtering high frequency time series data using a variety of techniques implemented on a computer." '959 Patent, *Abstract*. As discussed in the '959 Patent, data errors are a recurring problem when using high frequency time series data to derive predictive information. A data error exists "if a piece of quoted data does not conform to the real situation of the market. We have to identify a price quote as being a data error if it is neither a correctly reported transaction price nor a possible transaction price at the reported time." '959 Patent, 2:25-31. The '959 Patent identifies various causes of data errors,

[2] The Court understands that the Abstract sets forth a preferred embodiment and not a specific claim. It is referenced here for brevity.

including "human errors" and "system errors." *Id.* at 2:33-41, 2:56-3:45. The '959 Patent teaches ways to construct computerized filtering software to detect and identify errors in data streams. *Id*. at 5:45-60. Claim 1 of the '959 Patent, for instance, recites the following steps: testing time series financial data for decimal, scaling, and domain error, testing for credibility of said data that passes the tests for decimal, scaling, and domain error by comparing nearby data in the time series, and rejecting by a computer an item of data that fails the aforementioned testing processes.

ANALYSIS

Section 101 of the Patent Act provides that "any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof" may be patent eligible. 35 U.S.C. § 101. The Supreme Court "has long held that this provision contains an important implicit exception. '[L]aws of nature, natural phenomena, and abstract ideas' are not patentable." *Mayo Collaborative Servs. v. Prometheus Lab'ys, Inc.*, 566 U.S. 66, 70 (2012) (quoting *Diamond v. Diehr*, 450 U.S. 175, 185 (1981)) (alteration in original). Since "all inventions at some level embody, use, reflect, rest upon, or apply" a natural law or abstract idea, § 101 can only confer patent eligibility upon an invention only if such a patent "in practice amounts to significantly more than" a monopoly over the natural law, natural phenomenon, or abstract idea itself. *Id.* at 71-73. Put most simply, it is insufficient for a patent to "simply state the law of nature while adding the words 'apply it.'" *Id.* at 72. The rationale is that "tying up" these "basic tools of scientific and technological work," would "inhibit future innovation premised upon them" to an unacceptable degree. *Id.* at 86 (quoting *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)).

In *Mayo* and *Alice Corp. Pty. Ltd. v. CLS Bank Intern.*, 573 U.S. 208 (2014), the Supreme Court applied these principles undergirding § 101 and delineated a two-part test for evaluating

whether an invention is patentable. At ***Step 1***, the Court "determine[s] whether the claims at issue are directed to one of those patent-ineligible concepts," *i.e.*, a law of nature, natural phenomenon, or abstract idea. *Alice*, 573 U.S. at 217. If they are, the Court proceeds to ***Step 2***, at which it interrogates the elements of each claim, "both individually and as an ordered combination," to determine whether they contain an "inventive concept" sufficient to transform the nature of the claim into a patent-eligible application. *Id*. at 217, 221. That is, does the patent "integrate the building blocks into something more" than the natural law or abstract idea? *Id*. at 217.

"Patent eligibility under 35 U.S.C. § 101 is a question of law that may contain underlying issues of fact." *In re Marco Guldenaar Holding B.V.*, 911 F.3d 1157, 1159 (Fed. Cir. 2018). Therefore, it "may be determined at the Rule 12(b)(6) stage of a case. . . . [if] there are no factual allegations that, taken as true, prevent resolving the eligibility question as a matter of law." *ChargePoint, Inc. v. SemaConnect, Inc.*, 920 F.3d 759, 765 (Fed. Cir. 2019) (cleaned up). When considering a motion to dismiss, courts "accept the allegations in the complaint as true, and draw all reasonable inferences in favor of the plaintiff." *Crescent Plaza Hotel Owner, L.P. v. Zurich Am. Ins. Co.*, 20 F.4th 303, 307 (7th Cir. 2021) (cleaned up). But "allegations in the form of legal conclusions are insufficient," as are "threadbare recitals of the elements of a cause of action, supported by mere conclusory statements." *Def. Sec. Co. v. First Mercury Ins. Co.*, 803 F.3d 327, 334 (7th Cir. 2015) (cleaned up) (quoting *Iqbal*, 556 U.S. at 678). The Court will also consider certain extrinsic documents that are attached to the amended complaint or the defendant's motion to dismiss as long as they are central to the plaintiff's claims. *See 188 LLC v. Trinity Indus., Inc.*, 300 F.3d 730, 735 (7th Cir. 2002). This includes the patent specifications at issue and other patent office documents that the parties have attached to their pleadings.

In its motion to dismiss, StoneX challenges the asserted patents as directed to ineligible subject matter, specifically to the abstract ideas of analyzing and filtering financial data. The Court will conduct the *Mayo-Alice* analysis as to the asserted patents by, first, determining whether the patent claims of each patent at issue are, as a whole, directed toward abstract ideas and, if so, evaluating whether each is sufficiently inventive over the prior art.

I. Step 1: Whether the Asserted Patents Are Directed at Abstract Ideas

The Supreme Court has "not establish[ed] any 'precise contours' for defining whether claims are directed to 'abstract ideas' or something else." *Cellspin Soft, Inc. v. Fitbit, Inc.*, 927 F.3d 1306, 1315 (Fed. Cir. 2019) (quoting *Alice*, 573 U.S. at 221). "Instead of a definition [of 'abstract idea'], then, the decisional mechanism courts now apply is to examine earlier cases in which a similar or parallel descriptive nature can be seen—what prior cases were about, and which way they were decided." *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1294 (Fed. Cir. 2016).

The parties dispute the proper characterizations of the asserted patent claims in this case. That dispute must be resolved prior to conducting any comparisons with prior cases. OANDA argues that StoneX describes the asserted patents' claims at too high a level of abstraction in its motion to dismiss. According to OANDA:

> The claims of the patents are not directed merely to 'analyzing financial information using mathematical operations or techniques.' (*See* Mot. at 10.) Rather, the claims of the patents are directed to specific implementations of computerized trading systems and interfaces for trading currencies, including: for the '504 Patent, improved methods for determining value-at-risk based on tick-by-tick financial data; for the '548 Patent, improved methods of obtaining predictive information for inhomogeneous financial time series; and, for the '959 Patent, improved methods of filtering time series financial data.

Resp. at 11-12, ECF No. 37. OANDA goes on to argue that the improvements "are not 'abstract ideas'—they are instead specific improvements in the functioning and operation of prior art computerized systems." *Id.* at 12. And "they provide a specific, concrete solution to online currency trading problems, and thereby fall outside of the realm of 'abstract ideas.'" *Id.*

OANDA's argument is not persuasive. The claims are not rendered sufficiently concrete by virtue of their implementation in computerized currency trading systems. To be sure, OANDA uses computers to carry out the tasks comprised by the patents—and may in fact ***need*** to use computers to incorporate the constant influx of new data efficiently/usefully—and the outputs of the innovations are used to facilitate currency transactions that take place on a digital trading platform. But to say that the patents ***enable*** online currency transactions or offer technical improvements to the computerized system is to give them too much credit.

Simply put, the '504 and '548 Patents enable OANDA to provide users of the digital trading platform with certain metrics in the course of using the platform, and the Court assumes for purposes of this motion that these metrics are more accurate and reliable than the metrics that could be provided through the prior art. And so too the Court credits OANDA's contention that the '959 Patent makes it easier to provide instantaneous price quotes and other data with a higher degree of confidence in the quality of the outputs (due to the reduction of data errors). That OANDA's patents enable the use of more data and better modes of analysis, however, does not change the essentially abstract nature of the patents in suit: the concepts of obtaining, filtering, and processing data to provide statistical information are abstract regardless of the quality of the process used to do so. "A process that start[s] with data, add[s] an algorithm, and end[s] with a new form of data [is] directed to an abstract idea." *RecogniCorp, LLC v. Nintendo Co.*, 855 F.3d 1322, 1327 (Fed. Cir. 2017).

The patents' reliance on computers to obtain, filter, and process transaction data does not render the concepts less abstract. None of the patents actually augment the technological capabilities of computers to do anything they couldn't do before. As in *Solutran, Inc. v. Elavon, Inc.*, "[t]his is not a situation where the claims 'are directed to a specific improvement to the way computers operate' and therefore not directed to an abstract idea." 931 F.3d 1161, 1167 (Fed. Cir. 2019) (quoting *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1336 (Fed. Cir. 2016)). These patent claims are fundamentally directed toward performing analytical financial tasks—improvements in the practices of estimating risk, predicting volatility, and reducing data errors in generating price quotes and other computations—and they are not saved from ineligibility because computers perform the operations, the outputs of the operations are displayed on computers, or because users rely on the operations' outputs to engage in transactions that take place on computers. *See Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1336 (Fed. Cir. 2016) (asking whether "the plain focus of the claims is on an improvement to computer functionality itself, [or] on economic or other tasks for which a computer is used in its ordinary capacity."); *see also CardioNet, LLC v. InfoBionic, Inc.*, 2020-2123, 2021 WL 5024388, at *4 (Fed. Cir. Oct. 29, 2021) ("To qualify as 'a patent-eligible improvement,' the invention must be directed to a specific improvement in the computer's functionality, not simply to use of the computer 'as a tool' to implement an abstract idea.").

Examining each of the patents' claims as a whole, then, the Court concludes that the '504 Patent is directed at the abstract concept of using financial market data to measure risk, the '548 Patent is directed at the abstract concept of obtaining predictive financial information based on historical market data, and the '959 Patent is directed at the abstract concept of filtering financial data for errors. Even if the Court were to specify that these are focused on tick-by-tick financial

data (or phrased as inhomogeneous time series), that does not make the claims, as a whole, any less directed toward the abstract ideas mentioned above. Whether the data is input through a homogenous or inhomogeneous time series does not make the nature of the innovations any less abstract. *See OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1362–63 (Fed. Cir. 2015) (that abstract claims may be limited to applications "in the e-commerce setting do not make them any less abstract."). This is consistent with guidance from the Federal Circuit, which of course is binding on this Court:

> Information as such is an intangible. Accordingly, we have treated collecting information, including when limited to particular content (which does not change its character as information), as within the realm of abstract ideas. In a similar vein, we have treated analyzing information by steps people go through in their minds, or by mathematical algorithms, without more, as essentially mental processes within the abstract-idea category. And we have recognized that merely presenting the results of abstract processes of collecting and analyzing information, without more (such as identifying a particular tool for presentation), is abstract as an ancillary part of such collection and analysis.

Electric Power Group, LLC v. Alstom S.A., 830 F.3d 1350, 1353-54 (Fed. Cir. 2016) (citations omitted). In *SAP Am., Inc. v. InvestPic, LLC*, the Federal Circuit had occasion to apply these principles to a patent that—like the '504 and '548 patents here—was directed at performing statistical analyses of investment information using novel methods, and it ultimately found the claims abstract. 898 F.3d 1161 (Fed. Cir. 2018).[3] The Federal Circuit stated in no uncertain terms

[3] OANDA attempts to distinguish *SAP America* as dismissing a claim that claimed only a mathematical result while its claims "teach a specific implementation of a method to improve currency trading systems to reduce errors." Resp. at 12. But the method claimed in *SAP America*, like those claimed by OANDA, sought to calculate more accurate and reliable metrics for risk and other financial market predictors by applying novel statistical methods, and to report or display the results of the analysis—in other words, to implement a method to improve the reliability and utility of online financial investment systems. There is no meaningful distinction between the end product of the method at issue in *SAP America* and the methods of the '504 and '548 patents.

that the claims were ineligible because their "subject is nothing but a series of mathematical calculations based on selected information and the presentation of the results of those calculations (in the plot of a probability distribution function). No matter how much of an advance in the finance field the claims recite, the advance lies entirely in the realm of abstract ideas . . . ." *Id.* at 1163; *see also In re Bd. of Trustees of Leland Stanford Junior U.*, 991 F.3d 1245, 1250 (Fed. Cir. 2021) (claims failed *Mayo-Alice* Step 1 where they were "directed to the use of mathematical calculations and statistical modeling. Courts have long held that mathematical algorithms for performing calculations, without more, are patent ineligible under § 101.") (citing *Parker v. Flook*, 437 U.S. 584, 595 (1978)); *see also Digitech Image Techs., LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344, 1351 (Fed. Cir. 2014) ("a process that employs mathematical algorithms to manipulate existing information to generate additional information is not patent eligible"); *cf. Gottschalk,* 409 U.S. at 71-72 (patent on mathematical algorithm would effectively allow patent on an idea).

With regard to the '959 Patent, the Federal Circuit has recognized that "collecting and analyzing information for financial transaction fraud or error detection" is an abstract idea. *Bozeman Fin. LLC v. Fed. Reserve Bank of Atlanta*, 955 F.3d 971, 978 (Fed. Cir. 2020). In *Bozeman*, the Federal Circuit dealt with a check fraud detection mechanism that operated by "receiving data from two financial records, storing that data, comparing that data, and displaying the results." *Id.* It found that the claims at issue were directed to an abstract idea and held that "[v]erifying financial documents to reduce transactional fraud is a fundamental practice that, without more, is not eligible for patent protection." *Id.; see also Solutran, Inc. v. Elavon, Inc.*, 931 F.3d 1161 (Fed. Cir. 2019) (finding the claims abstract because verifying the accuracy of a

transaction is a common human practice); *FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1093 (Fed. Cir. 2016) (detecting fraud by analyzing data is abstract).

In short, the patents purport to claim methods for determining financial metrics by collecting, storing, validating, and processing financial transaction data through a series of mathematical algorithms. As such, they are directed toward abstract concepts.

II. Step 2: Whether the Patents Contain Inventive Concepts

The Court's review proceeds to Step 2 of the *Mayo-Alice* test, wherein it inspects the patent claims for the presence of an inventive concept. "The transformative 'inventive concept' supplied by the claim elements not drawn to ineligible subject matter must be 'sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.'" *Athena Diagnostics, Inc. v. Mayo Collaborative Services, LLC*, 915 F.3d 743, 753 (Fed. Cir. 2019) (quoting *Alice*, 573 U.S. at 217-18). "An inventive concept reflects something more than the application of an abstract idea using 'well-understood, routine, and conventional activities previously known to the industry.'" *Cellspin Soft, Inc.*, 927 F.3d at 1316 (quoting *Aatrix Software, Inc. v. Green Shades Software, Inc.*, 882 F.3d 1121, 1128 (Fed. Cir. 2018)).

OANDA argues that StoneX's motion should be denied because StoneX fails to address its factual allegations regarding its claimed departures from the prior art. The portions of the complaint to which OANDA cites in support of this argument can be summarized as follows: the claims of each patent represent remarkable improvements (each "an unconventional and sharp departure") over the processes and capabilities of the prior art in various respects, and each enables the performance of computations with levels of speed and accuracy that humans or even teams of humans could not achieve. Resp. at 7-10 (citing Compl. ¶¶ 31-43, 49-61, 67-79).

Further, "the inventions here are directed to making particular improvements in the functioning of online currency trading systems to reduce errors and increase profitability." Resp. at 14. Those allegations, OANDA contends, suffice to put Step 2 in factual dispute and thus preempt the resolution of the eligibility question at this pleading stage. Resp. at 7-10 (citing *Cellspin Soft, Inc*, 927 F.3d at 1318; *Berkheimer v. HP Inc.*, 881 F.3d 1360 (Fed. Cir. 2018); *Aatrix Software, Inc.*, 882 F.3d 1121).

Ultimately, even taking OANDA's properly asserted factual allegations as true, the Court still finds that its patents do not contain any inventive concepts that take them out of the realm of the abstract. To be sure, OANDA adequately alleges that the asserted patents represent improvements over—indeed, even radical departures from—the prior art. And OANDA's patents describe techniques that are implemented on computers—and, more specifically, online currency exchange platforms. But no matter how revolutionary these breakthroughs were once implemented in the online currency trading world, or how superior they are to what humans could achieve on their own, or how much they've enabled risk evaluation on online currency trading platforms, they are still innovations in the realms of the abstract ideas to which the Court concluded they were directed during Step 1. *See Affinity Labs of Texas, LLC v. Amazon.com Inc.*, 838 F.3d 1266, 1271 (Fed. Cir. 2016) ("[N]either the claim nor the specification reveals any concrete way of employing a customized user interface.").

That an innovation represents a departure from "well-understood, routine, and conventional activities previously known to the industry" is not a sufficient condition for there to be an inventive concept within the meaning of the *Mayo-Alice* test. *SAP Am.*, 898 F.3d at 1163 ("We may assume that the techniques claimed are groundbreaking, innovative, or even brilliant, but that is not enough for eligibility. Nor is it enough for subject-matter eligibility that claimed

techniques be novel and nonobvious in light of prior art, passing muster under 35 U.S.C. §§ 102 and 103." (cleaned up)); *ChargePoint,* 920 F.3d at 773 ("Indeed, adding novel or non-routine components is not necessarily enough to survive a § 101 challenge."). This is because the innovation at issue—the departure from the prior art, the solution to a problem faced by the inventor—must be an innovation in subject matter other than the abstract idea.[4] *SAP Am., Inc.*, 898 F.3d at 1163 ("The claims here are ineligible because their innovation is an innovation in ineligible subject matter. Their subject is nothing but a series of mathematical calculations based on selected information and the presentation of the results of those calculations (in the plot of a probability distribution function). No matter how much of an advance in the finance field the claims recite, the advance lies entirely in the realm of abstract ideas, with no plausibly alleged innovation in the non-abstract application realm. An advance of that nature is ineligible for patenting."); *see also Dropbox, Inc. v. Synchronoss Techs., Inc.*, 815 F. App'x 529, 534 (Fed. Cir. 2020) ("[T]he abstract idea to which a claim is directed cannot supply the inventive concept . . ."). That is a significant aspect of what it means to have a patent over ***something more*** than the abstract idea or law of nature itself.

OANDA's inventiveness allegations concern only how the patents overcome obstacles faced by the prior art and that, by virtue of their implementation on computers, achieve results that humans or teams of humans would be incapable of achieving at a similar level of speed and accuracy. *See* Compl. ¶¶ 31-43, 49-61, 67-79.[5] Its asserted patents claim conceptual

[4] This is an issue that the court in *OANDA Corp. v. GAIN Capital Holdings, Inc. et al.*, Civil Action No. 20-5784 (ZNQ) (DEA), Dkt. 194 (D.N.J. July 5, 2023) (Dkt. 44-1), which the plaintiff has cited as supplemental authority, did not appear to consider in conducting its inventive concept inquiry. Therefore, the Court does not find that supplemental authority persuasive.

[5] The Court need not consider true any other portions of the complaint that are more properly characterized as legal conclusions.

improvements upon the very things that constitute abstract ideas: namely, methods of data processing, manipulation, filtering. What makes the '504 and '548 Patents breakthroughs is each's utility in quickly and accurately deriving statistical information from high-frequency financial data that is grouped in inhomogeneous data sets. What makes the '959 Patent new and useful is its ability to filter data for various errors quickly and accurately. These patents do not, however, provide any basis to conclude that the inventive components of the patent claims lie outside of the abstract realm. As explained, that aspects of the asserted claims were unknown to the prior art does not suffice to supply an inventive concept. *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 716 (Fed. Cir. 2014). Nor does the ordered combination of those steps, which is entirely conventional. *See Trinity Info Media, LLC v. Covalent, Inc.*, 72 F.4th 1355, 1366 (Fed. Cir. 2023) (asserted claims organized in expected manner—data collection, followed by processing and reporting of result—did not supply inventive concept).

The Federal Circuit has recognized that claims can satisfy Step 2 of the *Mayo-Alice* test "when the claims solve a technology-based problem, even with conventional, generic components, combined in an unconventional manner." *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1300 (Fed. Cir. 2016). One of the cases to which OANDA cites is particularly illustrative of what it takes for an innovation with an abstract and conventional concept at its core to have that ***something more***. In *Bascom Glob. Internet Services, Inc. v. AT&T Mobility LLC*, the Federal Circuit analyzed claims over a system for filtering content on the internet—something that, at first blush, is abstract and generally known. 827 F.3d 1341, 1348 (Fed. Cir. 2016). Crucially, however, the claimed system involved "installation of a filtering tool at a specific location, remote from the end-users, with customizable filtering features specific to each end user." *Id.* at 1350. While acknowledging that claims which "merely recite the abstract

idea of filtering content along with the requirement to perform it on the Internet, or to perform it on a set of generic computer components. . . . would not contain an inventive concept," the court found that "the claimed invention represents a software-based invention that improves ***the performance of the computer system itself***." *Id.* at 1351 (latter quotation cleaned up) (emphasis added). The Circuit Court explained:

> Filtering content on the Internet was already a known concept, and the patent describes how its particular arrangement of elements is a technical improvement over prior art ways of filtering such content. As explained earlier, prior art filters were either susceptible to hacking and dependent on local hardware and software, or confined to an inflexible one-size-fits-all scheme. BASCOM asserts that the inventors recognized there could be a filter implementation versatile enough that it could be adapted to many different users' preferences while also installed remotely in a single location.

Id. at 1350.

That is, the *Bascom* patentee alleged a technological deficiency in the prior art, and the patent claimed a technological solution to that problem by implementing a non-conventional arrangement of technical elements. The other cases on which OANDA relies similarly demand concrete solutions to technological problems rather than algorithmic or otherwise abstract ones. *See, e.g.*, *Cellspin Soft, Inc.*, 927 F.3d at 1316-18 (finding an inventive concept where patentee adequately alleged "its application of capturing, transferring, and publishing data was unconventional," because "it was unconventional to separate the steps of capturing and publishing data so that each step would be performed by a different device linked via a wireless, paired connection," which lessened certain hardware and software requirements and costs, among other concrete benefits). Such characteristics are not present in the asserted patents in this case.

OANDA tries to characterize its patents as claiming innovations in non-abstract application realms because they are implemented on computers and, more specifically, online currency exchange platforms. OANDA argues:

> Unlike in instances where courts have found the mere addition of conventional computer components to well-known business practices unpatentable, the inventions here are directed to making particular improvements in the functioning of online currency trading systems to reduce errors and increase profitability.

Resp. at 14. But there are no factual allegations supporting a finding that OANDA's "arrangement of elements is a ***technical*** improvement over [the] prior art." *BASCOM*, 827 F.3d at 1350 (emphasis added). OANDA's solutions to abstract statistical problems are not "necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks," *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257 (Fed. Cir. 2014), simply because they are applied on online currency exchange interfaces. *See Diamond v. Diehr*, 450 U.S. 175, 191 (1981) ("A mathematical formula as such is not accorded the protection of our patent laws, and this principle cannot be circumvented by attempting to limit the use of the formula to a particular technological environment." (citation omitted)). OANDA's patents are not innovative because they require computers to carry out the calculations concerning tick-by-tick data—computers are meant to compute—nor because they describe a particular interface—none is identified. Outside of how the asserted patents claim innovations in methods of analyzing and computing financial metrics based on tick-by-tick data, OANDA fails to specifically and plausibly allege how any of its claimed innovations "t[ake] advantage of an existing technological feature and use[] it in a different and inventive way from its original purpose." *Implicit LLC v. Home Depot U.S.A., Inc.*, No. 1:22-CV-02476-VMC, 2023 WL 3867797 (N.D. Ga. June 6, 2023) (citing *BASCOM*, 827 F.3d at 1350). As StoneX points out, the claims of the patents do not bear out any unconventional ***technical*** innovations in

computing or risk-management processes. *See* Reply at 12. Fundamentally, what OANDA's patents teach are methods for "determining value-at-risk" ('504), "obtaining predictive information (e.g., volatility) for inhomogeneous financial time series ('548), and filtering ('959) high frequency, inhomogenous data—not a technological innovation to the processes involving computers, the internet, or any online currency exchange.

OANDA has not plausibly and specifically alleged that the '504, '548, and '959 Patents' claims are drawn to eligible subject matter. They are therefore invalid. Accordingly, StoneX's motion to dismiss the infringement claims against it is granted.

III. Whether OANDA Should Have Leave to Amend

OANDA argues that if its claims are dismissed it should be granted leave to amend its complaint to add new factual allegations to cure any deficiencies, *i.e.*, any dismissal should be without prejudice. The Court declines to grant OANDA leave to amend because the shortcomings identified throughout this opinion are inextricably bound up in the patent claims and specifications. If there were factual issues leading to dismissal, such as the state of the prior art at the time the patents were issued, then dismissal without prejudice might be appropriate. But here, no artful pleading can get around the fundamentally abstract natures of the patent claims, upon which the Court has based its findings of subject matter ineligibility. The dismissal is therefore with prejudice.

Date: February 14, 2024

John J. Tharp, Jr.
United States District Judge